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# **WATER SUPPLY OUTLOOK FOR OREGON**



**U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE**

Collaborating with

**OREGON DEPARTMENT OF WATER RESOURCES**

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF  
**FEB. 1, 1977**

## TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SNOW COURSE MEASUREMENTS BY A SURVEY TEAM IN UTAH'S WASATCH RANGE.  
ORC-254-10

### PUBLISHED BY SOIL CONSERVATION SERVICE

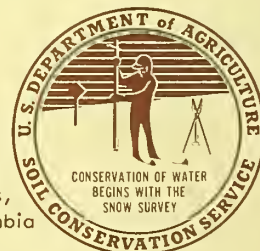
The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, 6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

### PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



# ***WATER SUPPLY OUTLOOK FOR OREGON***

and  
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

*Issued*

FEBRUARY 8, 1977

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OREGON  
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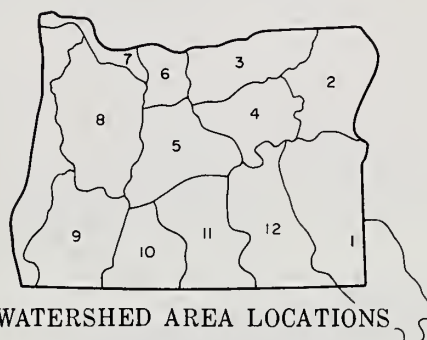
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# WATER SUPPLY OUTLOOK for OREGON

FEBRUARY 1977

The water supply outlook for Oregon is very poor to near average. Only some users with access to stored water will have near average supplies. The snowpack is at record low levels. Reservoir storage is generally close to average.

## SNOW COVER

The mountain snowpack is at record low levels. Record low measurements of snow water contents were reported at seventy-one snow courses. Snow cover varies from 1 to 20% in the Cascades and from 10 to 35% in Eastern Oregon. It would require snowfalls in excess of 300% for the next two months to recover to a normal snowpack.

## PRECIPITATION

It has been extremely dry in Oregon since September. This trend continued through January. Precipitation this past month varied from 15% of average in the Willamette Valley to 35% in Malheur County in Eastern Oregon.

## SOIL MOISTURE

Soils are dry beneath the mountain snowpack. This will detract from the snowmelt runoff when it begins.

## RESERVOIR STORAGE

Stored water supplies are generally near average for this time of year. However, some reservoirs will not fill because of the expected low streamflow. Twenty-six major irrigation reservoirs are currently storing 1,800,000 acre feet of water, compared to a normal of 1,779,000.

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## STREAMFLOW

Streams are still flowing at the same base levels of last September. There has been no contribution to runoff from the little rainfall received to date. Streamflow is expected to be much below normal this next spring and summer. Representative forecasts of Oregon streamflow are as follows:

<u>Stream</u>	<u>Period</u>	<u>Forecast % of 1958-72 Average</u>
Owyhee net inflow	Apr.-Sept.	21
Malheur near Drewsey	Apr.-Sept.	13
Deschutes near Benham Falls	Apr.-Sept.	76
Grande Ronde near La Grande	Apr.-Sept.	38
Willamette, Mid. Fk. near Oakridge	Apr.-Sept.	49
Klamath Lake net inflow	Apr.-Sept.	45
Rogue near Raygold	Apr.-Sept.	55
Silvies near Burns	Apr.-Sept.	22
John Day, Mid. Fk. nr. Ritter	Apr.-Sept.	39

This report contains data furnished by the Oregon Department of Water Resources, U. S. Geological Survey, NOAA National Weather Service and other cooperators.



# WATER SUPPLY OUTLOOK

## OWYHEE, MALHEUR WATERSHEDS

### OREGON

#### GENERAL OUTLOOK

THE OUTLOOK IS FOR BELOW NORMAL WATER YIELD IN THIS AREA. PRECIPITATION WAS 36% OF NORMAL IN JANUARY AND SNOWPACK WATER CONTENT AVERAGED 11%-16% ON MAJOR DRAINAGES. STREAMFLOW IS FORECAST TO BE MUCH BELOW NORMAL. WITHOUT ADEQUATE INFLOW THE USERS OF BEULAH, BULLY CREEK, AND WARMSPRINGS RESERVOIRS CAN EXPECT SHORTAGES.



## STREAMFLOW FORECASTS

STREAMFLOW FORECASTS		THIS YEAR		PAST RECORD	
BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average <sup>c</sup>
Bully Creek at Wamsprings	0.9	7	March-May		13.5
Malheur near Drewsey	14.0	13	Feb.-July		110
	9.4	13	Apr.-Sept.		72
Malheur, North Fork at Beulah	12.0	15	Feb.-July		81
	9.4	15	Apr.-Sept.		64
Owyhee Reservoir net Inflow	110	22	Feb.-July	680	510
	70	21	Apr.-Sept.	510	332

## FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Owyhee near Rome	1000 250	April 15 May 1	May 24 June 20

## RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average <sup>c</sup>
Antelope	70.0	No rpt.	--	8.9
Beulah Reservoir	60.0	24.8	24.6	24.8
Bully Creek	30.0	12.8	15.0	15.0
Owyhee	715.0	486.9	623.0	407.9
Wamsprings	191.0	78.0	131.6	80.3

## SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average <sup>c</sup>
Malheur River	1	86	89
Owyhee River	2	72	71

## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>c</sup>
Jordan Creek	2	19	16
Malheur River	5	12	13
Owyhee River	4	13	11

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

# WATER SUPPLY OUTLOOK

## BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS

### OREGON

#### GENERAL OUTLOOK

SNOWPACK WATER IS AVERAGING 12%-34% ON DRAINAGES OF THIS AREA. PRECIPITATION HAS BEEN BELOW NORMAL AND SOILS ARE FAIRLY DRY. BELOW NORMAL STREAM DISCHARGE IS FORECAST FOR THE AREA. FORECASTS RANGE FROM 24% TO 69% OF NORMAL STREAMFLOW FOR THE APRIL-SEPTEMBER PERIOD. WALLOWA LAKE WATER USERS SHOULD EXPECT POSSIBLE WATER SHORTAGES.



# STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average <sup>c</sup>
Bear near Wallowa	35	53	Apr.-Sept.		66
Burnt near Hereford	12.0	2.5	Feb.-July		48
	8.0	24	Apr.-Sept.		33
Catherine near Union	33	51	Apr.-Sept.		65
Eagle Creek abv. Skull Creek	67	38	Apr.-July		175
	77	40	Apr.-Sept.		190
Grande Ronde at La Grande	65	33	Mar.-Sept.	284	197
	59	38	Apr.-Sept.	246	158
Hurricane near Joseph	33	69	Apr.-Sept.		47
Imnaha at Imnaha	150	49	Apr.-Sept.		307
Lostine near Lostine	79	63	Apr.-Sept.		125
Powder near Sumpter	20	36	Apr.-July		55
	21	37	Apr.-Sept.		56
Wallowa, East Fork near Joseph	9.1	71	Feb.-Sept.		12.8
	7.5	66	Apr.-Sept.		11.4
Wallowa near Joseph	36	48	Apr.-July		76
Wolf Creek	1.5	12	Mar.-June		13.3

## RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average <sup>c</sup>
Phillips Lake	73.5	44.2	58.3	--
Thief Valley	17.4	15.0 <sup>a</sup>	17.4	16.4
Unity	25.2	12.3	12.7	10.7
Wallowa Lake	37.5	24.4	26.3	21.2

## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>c</sup>
Burnt River	4	13	14
Grande Ronde River above La Grande	3	28	34
Powder River	5	13	12
Wallowa, Imnaha, Catherine Creek	6	11	12

## SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average <sup>c</sup>
Burnt, Powder	1	88	59
Grande Ronde, Catherine Creek, Imnaha River	2	87	87

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

# WATER SUPPLY OUTLOOK

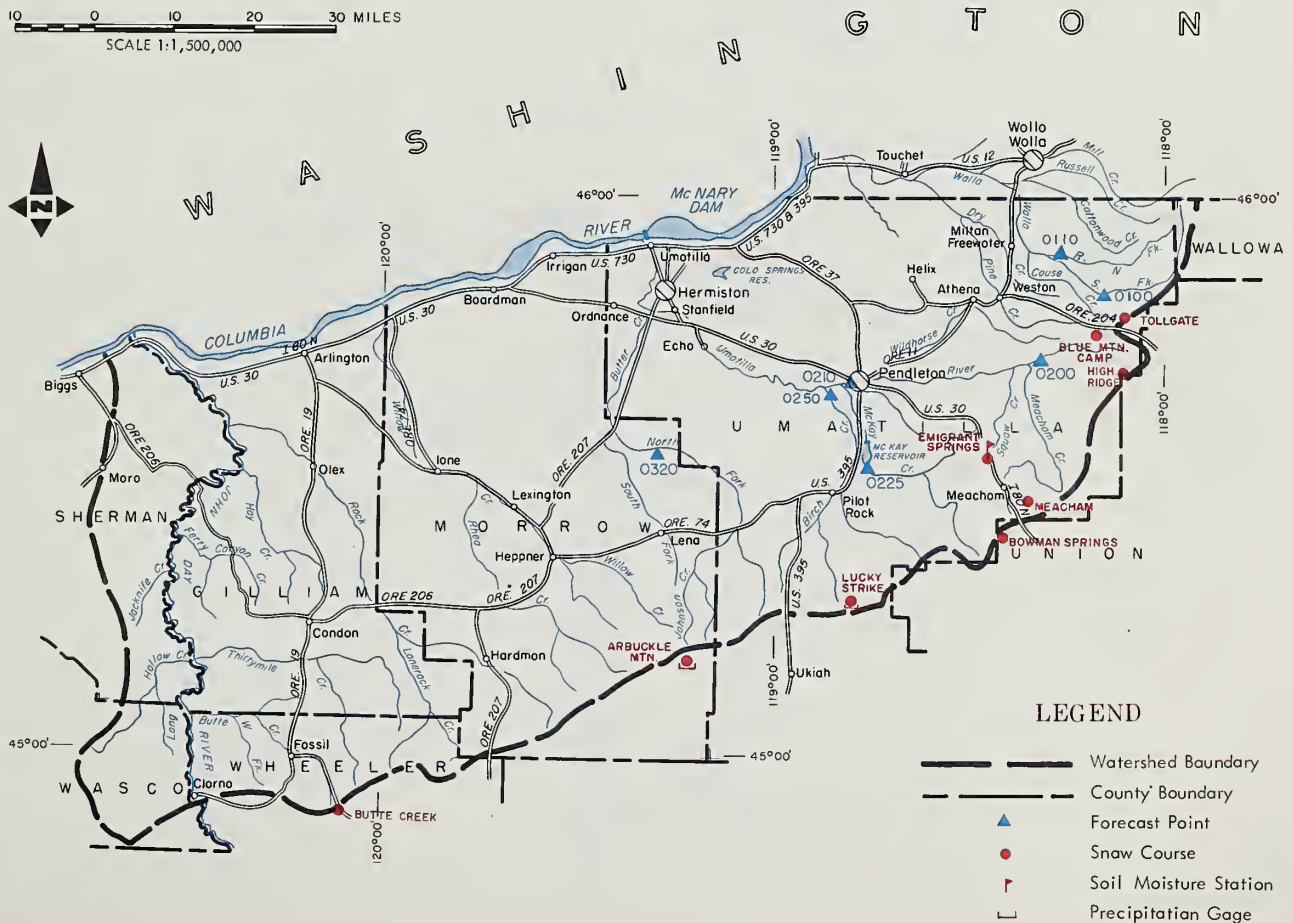
## UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

### OREGON

#### GENERAL OUTLOOK

THIS AREA HAS ABOUT 25% OF NORMAL SNOWPACK WATER. PRECIPITATION HAS BEEN MUCH BELOW AVERAGE FOR THE SEASON. SPRING-SUMMER STREAMFLOW FORECASTS ARE GENERALLY IN THE 20% TO 50% OF NORMAL RANGE. COLD SPRINGS AND MCKAY RESERVOIR USERS SHOULD EXPECT SOME WATER SHORTAGES DUE TO LOW INFLOW FORECASTS.

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SCALE 1:1,500,000



# STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last year	Average <sup>c</sup>
Birch Creek at Rieth	8.0	29	Feb.-July		28
	4.0	25	Apr.-Sept.		15.9
Butter Creek near Pine City	3.3	29	Mar.-July		11.4
McKay near Pilot Rock	5.0	21	Apr.-Sept.		24
Umatilla at Pendleton	80	40	Mar.-Sept.		200
Umatilla near Gibbon	45	46	Mar.-Sept.		97
	35	47	Apr.-Sept.		75
Walla Walla, South Fork near Milton	60	76	Mar.-Sept.		79
	50	76	Apr.-Sept.		66

## FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Umatilla at Pendleton	550	April 1	May 22

## RESERVOIR STORAGE (Thousand Ac. Ft.)

RESERVOIR	Usable Capacity	END OF MONTH		
		Usable Storage		
		This Year	Last Year	Average <sup>c</sup>
Cold Springs	50.0	11.2	33.9	31.2
McKay	73.8	13.3	48.2	31.0

## SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average <sup>c</sup>
Umatilla, Walla Walla, McKay Creek	3	--	78

## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>c</sup>
McKay Creek	3	21	25
Umatilla River	3	19	26
Walla Walla River	2	20	25

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

# WATER SUPPLY OUTLOOK

## UPPER JOHN DAY WATERSHEDS

### OREGON

#### GENERAL OUTLOOK

WATER SUPPLY WILL BE LOW IN THIS AREA. SNOW WATER CONTENT IS AROUND 15% OF NORMAL. SEASONAL PRECIPITATION HAS BEEN VERY LOW AND SOILS ARE FAIRLY DRY. STREAMFLOW FORECASTS RANGE FROM 30% TO 64% OF NORMAL DISCHARGE.



# STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average <sup>c</sup>
Camas Creek near Ukiah	14.0	33	Mar.-July		43
	10.0	30	Apr.-Sept.		33
John Day, Middle Fork at Ritter	52	40	Mar.-July		129
	42	39	Apr.-Sept.		108
John Day, North Fork at Monument	260	40	Mar.-July		646
	208	39	Apr.-Sept.		540
Strawberry near Prairie City	4.6	64	Mar.-July		7.2
	4.7	62	Apr.-Sept.		7.6

## SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average <sup>c</sup>
John Day above Dayville	2	81	86
John Day, North Fork	2	--	80

## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>c</sup>
John Day, North Fork	6	14	15
John Day abv. Dayville	5	14	14

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

# WATER SUPPLY OUTLOOK

## UPPER DESCHUTES, CROOKED WATERSHEDS

### OREGON

#### GENERAL OUTLOOK

THE WATER CONTENT OF THE SNOWPACK RANGES FROM 7% TO 17% OF AVERAGE OVER THE AREA. USERS OF STORED WATER SHOULD EXPECT POSSIBLE WATER SHORTAGES SINCE INFLOW TO RESERVOIRS WILL BE BELOW AVERAGE. APRIL-SEPTEMBER FLOW FORECASTS RANGE FROM 9% TO 76% ON VARIOUS STREAMS. JANUARY PRECIPITATION HAS BEEN ONLY 16% OF NORMAL.



## STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average <sup>c</sup>
Beaver Creek near Pauline	4.8	12	Feb.-July		41
	1.5	9	Apr.-Sept.		16.0
Crane Prairie Reservoir total Inflow	53	44	Apr.-Sept.		119
Crescent at Crescent Lake	6.5	30	Mar.-July		21
	7.0	31	Apr.-Sept.		22
Crooked near Post	25	14	Feb.-July		172
	14.3	16	Apr.-Sept.		91
Deschutes at Benham Falls	258	72	Apr.-July		360
	420	76	Apr.-Sept.		550
Deschutes below Snow Creek	33	45	Feb.-Sept.		74
	22	35	Apr.-Sept.		62
Deschutes, Little near La Pine	26	26	Feb.-July		102
	20	26	Apr.-July		76
Ochoco Reservoir net Inflow	7.8	23	Feb.-July		34
	4.8	26	Apr.-Sept.		18.8
Odell near Crescent	16.6	61	Apr.-Sept.		28
Squaw near Sisters	33	66	Apr.-Sept.		50
Tumalo near Bend	30	68	Apr.-Sept.		44

## FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second. Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Crane Prairie net Inflow	300	*	July 15
Crooked R. near Post	100	April 15	June 1
Deschutes at Bend	1500	*	July 1
Little Deschutes near La Pine	400	**	June 7
	200	May 1	July 8
* Issued on April 1.			
** Will not reach 400 cfs.			

## RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average <sup>c</sup>
Crane Prairie	55.3	41.3	56.7	42.1
Crescent Lake	86.9	68.2	84.4	45.9
Ochoco	47.5	24.9	32.8	21.2
Prineville	153.0	93.1	93.1	102.4
Wickiup	200.0	171.3	187.5	148.5

## SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average <sup>c</sup>
Crooked R., Upper Deschutes River	2	85	87

## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>c</sup>
Crooked, Ochoco	4	18	17
Deschutes abv. Wickiup	3	6	7
Little Deschutes	4	10	12
Tumalo & Squaw Crs.	3	6	7

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

# WATER SUPPLY OUTLOOK

## HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

### OREGON

#### GENERAL OUTLOOK

JANUARY PRECIPITATION WAS 18% OF NORMAL AND SNOWPACK WATER RANGED FROM 11% TO 17% OF AVERAGE. SURFACE RUNOFF WILL BE BELOW NORMAL. STREAMFLOW FORECASTS RANGE FROM 42% TO 65% ON MAJOR RIVERS. WATER SUPPLIES FROM CLEAR LAKE WILL BE LIMITED DUE TO REDUCED INFLOW.

10 0 10 20 MILES  
SCALE 1:1,000,000



# STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average <sup>c</sup>
Hood River near Tucker Bridge	160	56	Apr.-July		286
	193	58	Apr.-Sept.		332
Hood, West Fork near Dee	85	64	Apr.-July		132
	100	65	Apr.-Sept.		154
White below Tygh Valley	50	42	Apr.-July		118
	61	46	Apr.-Sept.		133

## FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Clear Branch Inflow	* 15	July 15-31	**39
* Average cfs forecast to flow for this two-week period.			
** Average cfs for period of record.			

## RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average <sup>c</sup>
Clear Lake (Wasco)	11.9	6.6	9.9	2.2

## SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average <sup>c</sup>
Hood River, Mile Creeks			
Measurements begin in the Feb. 1 report which will be issued about Feb. 8, 1977.			

## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>c</sup>
Hood River	4	16	11
White River	3	16	17

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

# WATER SUPPLY OUTLOOK LOWER COLUMBIA WATERSHEDS OREGON

## GENERAL OUTLOOK

THE LOWER COLUMBIA AREA WILL EXPERIENCE DRIER THAN NORMAL CONDITIONS. THERE IS ESSENTIALLY NO SNOWPACK IN THE COAST RANGES. SNOWPACK CONTRIBUTIONS FROM UPSTREAM AREAS WILL BE SMALL. SUMMER FLOW OF THE COLUMBIA RIVER AT THE DALLES IS FORECAST TO BE ABOUT 57% OF NORMAL. JANUARY PRECIPITATION WAS ABOUT 15% OF AVERAGE.



## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>c</sup>
Sandy River	2	17	19

## STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average	Last Year	Average <sup>c</sup>
Columbia at The Dalles	42,400	58	Apr.-June	73,160
	58,500	56	Apr.-Sept.	104,426
Sandy River near Mamot	200	58	Apr.-July	342
	239	60	Apr.-Sept.	398

## HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW <sup>d</sup> (1,000 A F)			REGULATED PEAK (1,000 cfs)	DATE
	APR - SEPT.	APR - JUNE	MAY - JUNE		
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6
1961	101,400	74,400	64,000	699	June 8
1962	94,600	64,100	49,200	460	June 5
1963	87,000	56,300	46,200	437	June 18
1964	109,020	70,739	61,313	662	June 18
1965	114,137	80,024	62,477	520	June 9
1966	87,268	58,120	45,922	396	June 12
1967	107,771	72,408	65,112	622	June 10
1968	89,000	55,500	47,900	404	June 13
1969	112,300	85,700	63,800	515	May 15
1970	88,100	62,800	55,200	425	May 28
1971	122,900	88,400	73,700	557	May 13
1972	134,700	96,400	81,400	619	June 20
1958-72 Avg.	104,300	72,900	59,900	529	

## LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu)	FLOW AT THE DALLES (1,000 cfs)	DRAINAGE DISTRICT PUMPHOUSE						
		SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES						
		118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.3	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32 (1972)	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Estimated (b) 1958-72 adjusted average (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

THE WILLAMETTE AREA RECEIVED ONLY 14% OF NORMAL PRECIPITATION IN JANUARY. SNOWPACK WATER RANGED FROM 1% TO 17% OF NORMAL. STREAMS ARE RUNNING NEAR BASE FLOW AND MANY RESERVOIRS ARE REPORTING LOW LEVELS. FORECAST STREAMFLOW RANGES GENERALLY FROM 45% TO 70% OF NORMAL. WATER USERS SHOULD PREPARE FOR LIMITATIONS IN WATER AVAILABILITY.



# STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average <sup>c</sup>
Clackamas at Estacada	365	54	Apr.-July		674
	470	60	Apr.-Sept.		789
Clackamas above Three Lynx	275	54	Apr.-July		506
	365	60	Apr.-Sept.		604
McKenzie at McKenzie Bridge	298	66	Apr.-July		453
	408	68	Apr.-Sept.		598
McKenzie near Vida	660	64	Apr.-July		1,035
	843	67	Apr.-Sept.		1,262
McKenzie, So. Fork near Rainbow	138	66	Apr.-July		210
	166	69	Apr.-Sept.		239
Oak Grove Fork above Power Intake	79	64	Apr.-July		123
	110	68	Apr.-Sept.		162
Row near Dorena	45	46	Apr.-July		98
	46	45	Apr.-Sept.		102
Santiam, North at Mehama	400	52	Apr.-July		765
	470	54	Apr.-Sept.		872
Santiam, South at Waterloo	260	46	Apr.-July		564
	300	48	Apr.-Sept.		623
Willamette, Mid. Fk. blw, N. Fk. nr. Oakridge	300	44	Apr.-July	750	678
	385	49	Apr.-Sept.	868	779
Willamette, No. Fk. of Mid. Fk. nr. Oakridge	90	48	Apr.-July		189
	108	52	Apr.-Sept.		209
Willamette at Salem	2,900	59	Apr.-Sept.		4,943

## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>c</sup>
Clackamas River	2	1	1
McKenzie River	3	13	15
Row River	3	20	17
Santiam River	4	6	6
Willamette, Mid. Fk.	5	12	14

## RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average <sup>c</sup>
Blue River	85.6*	2.8	4.8	--
Cottage Grove	30.0*	0.0	0.2	3.8
Cougar	155.2*	0.0	9.0	34.2
Detroit	299.2*	0.0	16.8	60.0
Dorena	70.5*	0.0	2.3	15.3
Fall Creek	115.0*	0.0	1.2	21.9
Fern Ridge	94.2*	0.0	3.3	24.8
Foster	30.0*	0.0	0.6	2.1
Green Peter	270.0*	0.0	7.3	73.3
Hills Creek	200.0*	0.0	23.8	38.3
Lookout Point	337.2*	0.0	24.4	64.8
Timothy Lake	61.7	41.8	61.0	49.9
Henry Hagg Lake	53.0	22.8	34.6	--
* Multiple purpose reservoir--space reserved primarily for flood runoff.				

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY WILL BE BELOW NORMAL IN THIS AREA. JANUARY PRECIPITATION WAS ONLY 19% OF NORMAL. SNOWPACK WATER GENERALLY RANGES FROM 14% TO 24% OF AVERAGE. RESERVOIR INFLOW WILL BE LESS THAN NORMAL AND USERS SHOULD PLAN FOR POSSIBLE WATER LIMITATIONS. RIVER FORECASTS RANGE FROM 36% TO 72% OF AVERAGE.



# STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average <sup>c</sup>
Applegate near Copper	60	45	Apr.-Sept.		133
Clearwater above Trap Creek	50	72	Apr.-Sept.		69
Fourmile Lake net Inflow	1.7	40	Apr.-Sept.		4.3
Hyatt Reservoir net Inflow	1.9	41	Apr.-July		4.6
Illinois River near Kerby	127	66	Apr.-July		191
	130	66	Apr.-Sept.		197
Little Butte, N. Fk. at Fish Lake nr. Lake Cr.	6.0	44	Apr.-Sept.		13.7
Little Butte S. Fk. near Lake Creek	10.0	36	Apr.-Sept.		28
Rogue above Prospect	140	55	Apr.-July		256
Rogue, South Fork near Prospect	25	41	Apr.-July		61
	28	39	Apr.-Sept.		72
Rogue at Raygold near Central Point	390	53	Apr.-July	779	735
	490	55	Apr.-Sept.	997	890
Rogue at Grants Pass	400	53	Apr.-July		749
	490	55	Apr.-Sept.		890
Umpqua, No. blw. Lemolo Res. nr. Toketee Falls	115	72	Apr.-Sept.		160

## FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/ Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Little Butte Creek, South Fork	100	April 1	May 27
Rogue at Raygold	1200	June 24	Aug. 7
	*1016	July 1	
	* 861	Aug. 15	
* Average daily cfs forecast to flow on this date.			

## RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average <sup>c</sup>
Emigrant Lake	39.0	23.0	24.0	23.1*
Fish Lake	8.0	6.4	7.1	5.3
Fourmile Lake	16.1	9.6	14.2	8.6
Howard Prairie	60.0	37.6	50.7	36.5
Hyatt Prairie	16.1	10.1	12.9	10.5
* Average for years of record (in base period) after reconstruction.				

## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>c</sup>
Applegate	3	40	18
Bear Creek	2	28	14
Butte Creek	4	19	24
Illinois River	3	63	14
North Umpqua	3	13	18
Rogue River	4	16	20

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

THIS AREA, WHICH WAS SLIGHTLY BELOW AVERAGE IN WATER SUPPLY LAST YEAR, SHOULD EXPECT SOME WATER SHORTAGES. JANUARY PRECIPITATION WAS 21% OF AVERAGE WHILE THE SNOWPACK RANGES FROM 12% TO 32% OF NORMAL. INFLOW TO GERBER RESERVOIR AND UPPER KLAMATH LAKE IS FORECAST AT ONLY 3%-5% OF AVERAGE. WATER USERS SHOULD PREPARE FOR WATER LIMITATIONS. OTHER RIVER FORECASTS RANGE FROM 33% TO 50% OF AVERAGE.



# STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average <sup>c</sup>
Clear Lake Reservoir Inflow	2.8	3	Feb.-July		92
Gerber Reservoir Inflow	2.2	5	Feb.-July		43
Sprague near Chiloquin	130	37	Feb.-Sept.		353
	80	33	Apr.-Sept.		242
Upper Klamath Lake net Inflow	375	42	Feb.-Sept.	811	899
	240	45	Apr.-Sept.	499	536
Williamson below Sprague River	308	50	Feb.-Sept.		615
	200	48	Apr.-Sept.		414

## SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average <sup>c</sup>
Upper Klamath	1	74	67

## RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average <sup>c</sup>
Clear Lake	440.2	209.8	287.2	205.6
Gerber	94.0	35.0	53.5	42.2
Upper Klamath Lake	584.0	328.7	326.4	358.9

## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>c</sup>
Lost River	4	56	32
Sprague River	3	16	13
Upper Klamath	6	16	16
Williamson River	3	13	12

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.



# STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average C
Chewaucan near Paisley	23	27	Mar.-July	67	87
Deep above Adel	23	29	Mar.-July		78
Drews Reservoir net Inflow	7.0	18	Mar.-July		40
Honey Creek near Plush	4.0	20	Mar.-July		19.5
Silver Creek near Silver Lake	1.4	10	Apr.-July		13.7
Twentymile near Adel	5.0	19	Mar.-July		26

## SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average C
Chewaucan, Silver Creek, Drew Creek	1	74	67
Honey, Deep, 20-Mi. Cr.	1	68	63

## RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average C
Cottonwood	8.7	1.3	1.7	2.9*
Drews	63.0	20.9	36.0	34.3
Thompson Valley	19.5	10.6	11.3	--
* Average for years of record (in base period) after reconstruction.				

## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

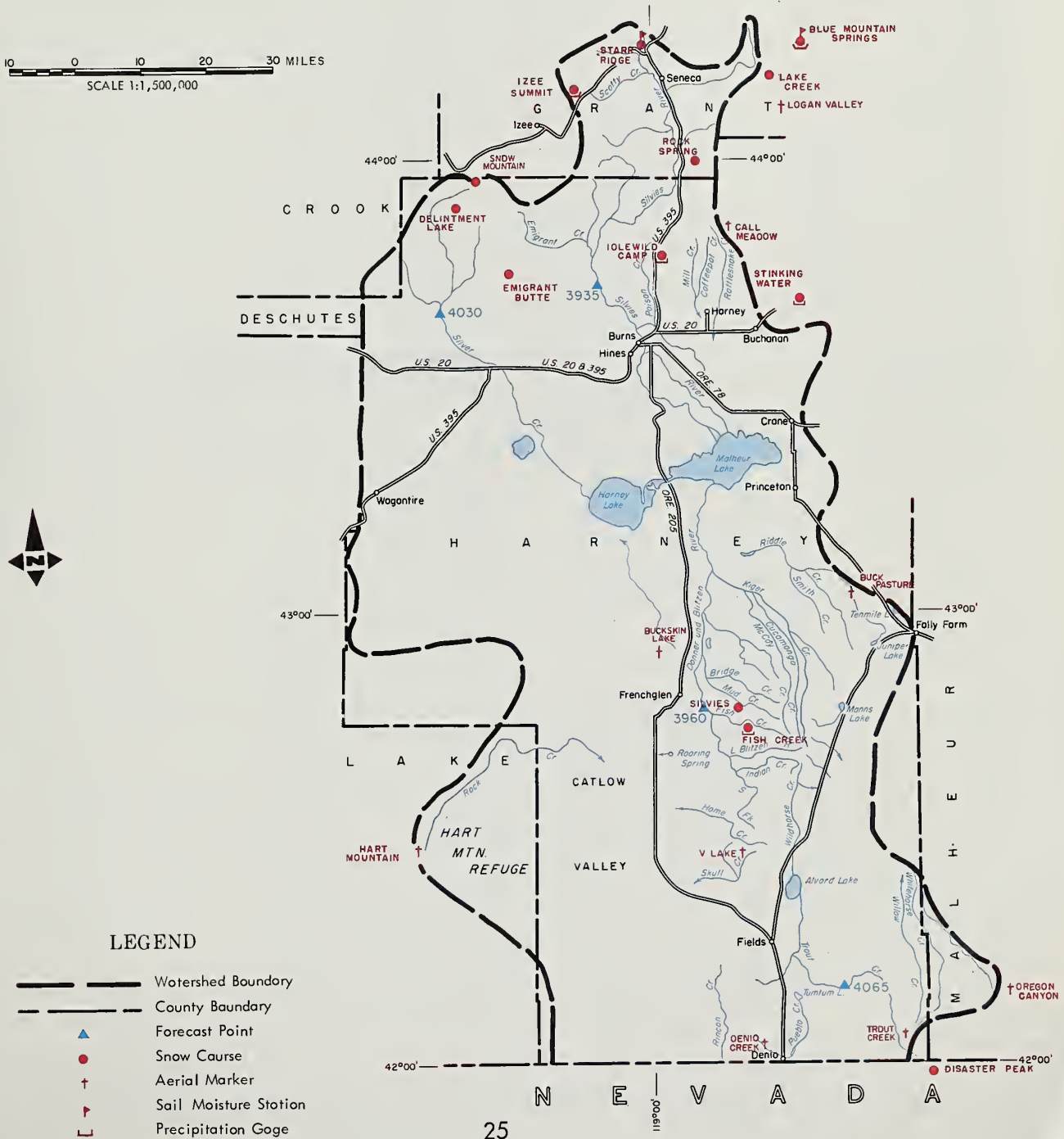
RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average C
Chewaucan River	3	16	13
Deep Creek	2	46	37
Drew Creek	3	25	17
Honey Creek	3	32	21
Silver Creek	3	13	7
Twentymile Creek	2	30	26

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

# WATER SUPPLY OUTLOOK HARNEY BASIN WATERSHEDS OREGON

## GENERAL OUTLOOK

THIS AREA HAD THE HIGHEST PER CENT OF JANUARY PRECIPITATION IN OREGON AT 44%. THIS DID NOT HELP THE WATER SUPPLY OUTLOOK, HOWEVER. SNOWPACK WATER IS GENERALLY 19% OVER THE AREA. STREAMFLOW FORECASTS RANGE FROM 19% TO 54% OF NORMAL. STREAMFLOW WILL BE REDUCED THIS YEAR AND WATER USERS SHOULD PLAN FOR LIMITED SUPPLIES.



# STREAMFLOW FORECASTS

STREAMFLOW FORECASTS			THIS YEAR		PAST RECORD	
BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET		
	Thousand Acre Feet	Percent of Average		Last Year	Average <sup>c</sup>	
Donner und Blitzen near Frenchglen	30	54	Mar.-July		55	
	28	52	Apr.-Sept.		53	
Silver near Riley	3.0	19	Apr.-July		15.6	
Silvies River near Burns	20	21	Mar.-July		94	
	16.3	22	Apr.-Sept.		74	
Trout Creek near Denio	2.0	24	Mar.-July		8.4	

## SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average <sup>c</sup>
Silvies River, Silver Cr.	2	83	88

## SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>c</sup>
Donner und Blitzen R.	2	70	59
Silver Creek	2	15	14
Silvies River	4	15	17
Trout Creek	3	10	10

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average (d) Corrected to natural flow. (e) Not scheduled.

# BASIC DATA SUPPLEMENT 1

FEBRUARY 1977

## SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave.
OWYHEE, MALHEUR WATERSHEDS					
Antelope Ridge (Ida.)		e		---	3.4
Battle Creek (Ida.)	2/1	T	0.1	1.0	2.8
Bear Creek (Nev.)		e		11.6	13.1
Big Bend (Nev.)	2/25	6	0.6	4.8	5.7
Blue Mountain Springs aa	1/31	8	1.2	11.7	11.7
Blue Mtn. Springs Pillow*	1/31	---	1.4	---	---
Buck Pasture	2/1	T	0.1	2.8	1.3
Buckskin, Lower (Nev.)		e		---	---
Buckskin, Upper (Nev.)		e		---	---
Bull Basin (Ida.)	2/1	T	0.1	1.5	1.0
Bully Creek	2/1	0	0.0	1.5	2.4
Call Meadow	2.1	3	0.4	2.8	2.9
Columbia Basin (Nev.)	2/26	2	0.3	7.6	6.8
Cottonwood-Indian	2/1	0	0.0	0.1	0.9
Disaster Peak (Nev.)		e		---	---
Eldorado Pass aa	1/28	T	0.1	3.0	3.1
Fawn Creek (Nev.)	2/26	5	0.7	2.5	3.0
Fish Creek ***	NO REPORT			18.8	14.6
Fish Creek Pillow*		e		---	---
Flag Prairie	2/1	T	0.1	3.6	3.8
Fox Creek (Nev.)		e		---	---
Fry Canyon (Nev.)	2/25	6	0.9	4.9	4.9
Gold Creek (Nev.)	2/25	5	0.5	3.8	3.8
Granite Peak (Nev.)		e		---	10.2
Hyde Pasture (Ida.)	2/1	T	0.1	2.0	4.2
Jack Creek, Lower (Nev.)		e		3.3	---
Jack Creek, Upper (Nev.)	2/25	8	1.4	6.0	4.7
Jack Peak (Nev.)	2/25	20	1.4	15.4	---
Lake Creek R. S. aa	1/31	6	1.0	8.2	7.2
Laurel Draw (Nev.)	2/25	8	0.7	---	5.2
Logan Valley	2/1	4	0.6	7.6	5.6
Lookout Butte	2/1	0	0.0	0.0	0.3
Louse Canyon	2/1	T	0.1	0.6	2.2
Martin Creek (Nev.)		e		---	7.0
Merritt Mountain (Nev.)	2/26	6	0.6	4.2	3.9
Midas (Nev.)	2/26	0	0.0	0.0	2.4
Mud Flat (Ida.)		e		---	---
Oregon Canyon	2/1	T	0.1	3.4	3.5
Quinn Ridge (Nev.)	2/1	T	0.1	1.0	1.4
Red Canyon (Ida.)	2/1	3	0.4	5.0	5.4
Rock Spring aa	1/31	4	1.0	5.2	4.0
Rodeo Flat (Nev.)	2/25	5	0.6	4.6	3.9
76 Creek (Nev.)	2/26	2	0.2	5.8	7.6
Silver City (Ida.)	1/31	8	2.0	9.1	11.1
Silver City (Ida.)***	2/1	6	1.2	---	---
Silvies		e		11.5	---
Silvies***	NO REPORT			---	---
Silvies Pillow*		e		5.0	5.6
South Mountain #2 (Ida.)	1/29	6	1.2	8.0	9.0
Stag Mountain (Nev.)	2/26	3	0.3	1.2	3.2
Stinking Water	1/28	6	1.7	1.9	2.2
Succor Creek (Ida.)	2/1	T	0.1	3.6	4.2
Taylor Canyon (Nev.)	2/25	5	0.3	1.7	3.6
Toe Jam (Nev.)		e		4.9	6.4
Tremewan Ranch (Nev.)	2/26	1	0.1	0.7	1.2
Triangle (Ida.)	2/1	0	0.0	0.0	---
Trout Creek	2/1	4	0.6	4.8	3.9
"V" Lake	2/1	8	0.6	2.8	3.4
Vaught Ranch (Ida.)	2/1	T	0.1	0.6	2.8
War Eagle (Ida.)	2/1	T	0.1	22.1	17.7
** This station has been shortened to 5 sample points. The data is equivalent to previous measurements.					

\*\* This station has been shortened to 5 sample points. The data is equivalent to previous measurements.

## SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. <sup>c</sup>
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS					
Aneroid Lake #1	1/27	14	2.8	22.6	25.4
Aneroid Lake #2	1/27	16	2.8	19.8	23.0
Anthony Lake	1/28	13	2.7	21.8	16.9
Bald Mountain (Ore.)	1/28	12	2.2	17.8	16.6
Beaver Reservoir	1/27	9	2.5	9.5	9.0
Big Sheep	1/28	11	2.0	19.8	21.0
Blue Mtn. Summit aa	1/31	7	1.4	7.6	6.3
Bourne aa	1/28	6	1.3	12.9	11.0
Bourne Pillow	NO REPORT			---	---
County Line	1/28	7	1.3	4.6	4.0
Dooley Mountain	1/31	4	0.9	5.1	6.3
Eilertson Meadows	1/28	7	1.1	6.3	8.6
Eldorado Pass aa	1/28	T	0.1	3.0	3.1
Gold Center aa	1/28	7	2.1	10.5	9.3
Goodrich Lake aa	1/28	10	2.4	20.4	32.1
Little Alps	1/27	6	1.3	8.4	9.1
Little Antone	1/27	5	1.2	4.8	6.7
Little Antone Alt.	1/27	6	1.7	---	---
Lucky Strike aa	1/27	10	2.3	6.1	---
Lucky Strike Pillow*	1/27	7	2.0	9.1	10.9
Meacham	1/27	8	3.0	10.4	6.9
Mirror Lake	1/28	36	7.9	54.2	48.0
Moss Spring	1/28	17	3.4	18.8	15.0
Schneider Meadow aa	1/28	13	2.0	19.9	21.2
Schoolmarm	2/1	---	1.0	3.8	3.5
Standley	1/28	11	2.0	27.3	19.5
Taylor Green	1/28	11	2.0	12.8	11.6
Tipton aa	1/28	7	1.7	9.2	7.7
Tipton Snow Pillow*	1/28	---	1.6	9.5	---
Tollgate aa	1/27	17	4.0	20.7	16.9
TV Ridge	1/28	3	0.6	14.8	13.7
West Eagle Mdws	1/28	20	3.6	19.8	---
Wolf Creek	1/27	11	1.8	---	---
aa This station has been shortened to 5 sample points. The data is equivalent to previous measurements.					
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS					
Arbuckle Mountain aa	1/27	4	1.8	7.6	7.6
Arbuckle Mtn. Pillow*	1/27	-	2.6	12.3	---
Blue Mountain Camp	1/27	14	3.0	15.1	11.2
Bowman Springs Pillow	1/27	8	2.0	7.8	---
Butte Creek Summit	2/1	0	0.0	1.4	---
Emigrant Springs aa	1/27	1	0.2	6.3	4.1
High Ridge Pillow*	1/31	-	5.6	26.6	---
Lucky Strike aa	1/27	10	2.3	9.1	10.9
Lucky Strike Pillow*	1/27	7	2.0	---	---
Meacham aa	1/27	8	3.0	10.4	6.9
Tollgate aa	1/27	17	4.0	20.7	16.9
aa This station has been shortened to 5 sample points. The data is equivalent to previous measurements.					

# BASIC DATA SUPPLEMENT 1

FEBRUARY 1977

## SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches) Last Yr.	Ave. C

UPPER JOHN DAY WATERSHEDS					
Anthony Lake	1/28	13	2.7	21.8	16.9
Arbuckle Mountain aa	1/27	4	1.8	7.6	7.6
Arbuckle Mt. Pillow*	1/27	---	2.6	12.3	---
Blue Mountain Springs aa	1/31	8	1.2	11.7	11.7
Blue Mt. Springs Pillow*	1/31	---	1.4	---	---
Blue Mountain Summit aa	1/28	5	1.3	7.6	6.3
Butte Creek Summit	2/1	0	0.0	---	---
Derr	1/27	6	1.1	4.9	7.0
Gold Center aa	1/28	7	2.1	10.5 <sup>a</sup>	9.3
Indian Creek Butte	NO REPORT	---	---	22.4	16.9
Izee Summit aa	1/28	7	1.2	6.0	5.6
Lucky Strike aa	1/27	10	2.3	9.1	10.9 <sup>b</sup>
Lucky Strike Pillow***	1/27	7	2.0	---	---
Marks Creek	2/2	T	0.1	3.0	3.1
Ochoco Meadows	1/31	6	1.6	8.0	6.8
Olive Lake aa	NO REPORT	---	---	---	---
Olive Lake ***	1/27	6	1.4	---	---
Schoolmarm	2/1	---	1.0	3.8 <sup>a</sup>	3.5
Snow Mountain	1/26	9	1.8	---	---
Snow Mountain**	1/26	9	1.8	9.0	10.6
Snow Mountain Pillow**	1/31	---	1.0	7.8	---
Starr Ridge aa	1/28	5	0.9	4.9	4.4
Tipton aa	1/28	7	1.7	9.2	7.7
Tipton Snow Pillow*	1/28	---	1.6	9.5	---

aa This station has been shortened to 5 sample points. The data is equivalent to previous measurements.

UPPER DESCHUTES, CROOKED WATERSHEDS					
Bald Peter	2/1	7	2.0	27.4	---
Caldwell Ranch	1/27	5	1.0	7.9	8.0
Cascade Summit	1/28	12	4.2	25.2	19.2
Chemult	1/27	4	0.4	4.6	8.1
Chemult Alternate	1/27	4	0.4	6.1	---
Derr	1/27	6	1.1	4.9	7.0
Hogg Pass	1/27	12	3.3	26.0	27.5
Hungry Flat	1/29	0	0.0	3.4	4.9
Irish-Taylor Pillow**	1/29	---	0.9	30.4	25.4
Lionshead	1/31	0	0.0	8.6	---
Marks Creek	2/2	T	0.1	3.0	3.1
New Crescent Lake	1/26	7	0.9	11.8	10.2
Nuw Dutchman Flat #2	1/29	11	3.0	41.6	32.9
Ochoco Meadows	1/31	6	1.6	8.0	6.8
Racing Creek	2/1	0	0.0	8.4	---
Snow Mountain	1/26	9	1.8	9.0	10.6
Snow Mountain Pillow**	1/31	---	1.0	7.8	---
Summit Lake Pillow**	1/26	20	3.7	---	---
Tamarack	1/27	4	0.8	5.8	4.1
Tangent	1/29	5	1.0	15.6	16.0
Three Creek Butte	1/28	0	0.0	4.9	8.5
Three Creek Meadow	1/28	2	0.3	10.5	12.7
Three Creek Mdw. Pillow**	1/28	4	0.6	13.2	---
Waldo Lake	1/27	11	2.5	23.5	20.0
Whitewater Meadow	1/31	0	0.0	0.0	---

## SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches) Last Yr.	Ave. C

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS					
Brooks Meadows		e	---	---	---
Clear Lake	1/26	0	0.0	3.6	7.3
Clear Lake (Experimental)	1/26	4	1.2	11.2	10.9
Greenpoint	1/28	T	0.1	7.6	11.5
Greenpoint Pillow	1/28	---	0.8	---	---
Knebal Springs		e	---	---	---
Mt. Hood Test Site	1/31	23	8.0	44.3	41.3
Red Hill	1/28	10	4.2	20.6	25.2
Red Hill Pillow	1/28	---	4.0	---	---
Still Creek	1/26	8	2.7	17.2	15.6
Mud Ridge	1/28	13	4.1	23.4	---
Mud Ridge Pillow	1/28	---	0.8	---	---
Switchback	1/27	2	0.7	6.4	10.1 <sup>b</sup>
Tilly Jane	1/30	4	1.8	21.6	25.7
Ulrich Ranch Junction		e	---	---	---
Umbrella Falls	1/26	21	7.4	47.6	---

WILLAMETTE WATERSHEDS					
Cascade Summit	1/28	12	4.2	25.2	19.2
Champion	1/29	13	3.6	17.8	17.8 <sup>b</sup>
Champion Pillow	NO REPORT	---	---	---	---
Clackamas Lake		e	---	---	---
Clear Lake	1/26	0	0.0	3.6	7.3
Clear Lake (Expt.)	1/26	4	1.2	11.2	10.9
Dead Horse Grade	1/26	6	2.0	11.6	11.2
Detroit (Town)	1/27	0	0.0	0.0	1.8 <sup>b</sup>
Detroit Dam	1/27	0	0.0	0.0	0.8
Golden Curry Creek	1/29	0	0.0	0.0	3.7
Hogg Pass	1/27	12	3.3	26.0	27.5
Lake Harriet	NO REPORT	---	---	---	2.0
Laurel Mountain	1/31	0	0.0	0.0	---
Layng Creek	1/29	0	0.0	0.0	0.2
Lookout Point Dam	1/28	0	0.0	0.0	0.3
Lost Creek Ranch	1/26	0	0.0	0.0	3.9
Lund Park	1/29	0	0.0	0.0	0.4
Marion Forks	1/27	T	0.1	9.3	9.1
Marys Peak	1/31	0	0.0	0.2	7.5
McCredie Springs	1/28	0	0.0	0.0	0.5
McKenzie	1/26	21	4.8	38.0	29.2
McKenzie Bridge	1/26	0	0.0	0.0	0.7
Mill City	1/27	0	0.0	0.0	0.5
Mt. Hood Test Site	1/31	23	8.0	44.3	41.3
Mud Ridge	1/28	13	4.1	23.4	---
Mud Ridge Pillow	1/28	---	0.8	---	---
Oakridge	1/28	0	0.0	0.0	0.2
Peavine Ridge Pillow**	1/25	---	0.2	---	12.3 <sup>b</sup>
Railroad Overpass	1/28	0	0.0	0.0	1.8 <sup>b</sup>
Saddle Mountain Pillow**	1/28	---	0.0	1.4	---
Salt Creek Falls	1/28	7	2.2	10.2	10.6
Santiam Junction	1/27	T	0.1	16.7	16.7
Santiam Pillow	1/27	---	0.0	---	---
Seine Creek Pillow**	1/31	---	0.0	3.8 <sup>a</sup>	---
Still Creek	1/26	8	2.7	17.2	15.6
Summit Lake Pillow**	1/26	20	3.7	---	---
Timothy Lake	NO REPORT	---	---	---	9.8
Valsetz Summit	1/31	0	0.0	0.0	---
Vida	1/26	0	0.0	0.0	0.5
Waldo Lake	1/27	11	2.5	23.5	20.0
Weaver Creek	1/29	0	0.0	0.0	0.6
White Branch Slide	1/26	0	0.0	4.0	5.6
Whitewater Bridge	1/27	0	0.0	3.2	5.0

# BASIC DATA SUPPLEMENT 1

FEBRUARY 1977

## SNOW

DRAINAGE BASIN and or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont (In )	Water Content (inches)	
				Last Yr.	Ave. C
ROGUE, UMPQUA WATERSHEDS					
Althouse	1/28	0	0.0	0.0	6.2
Annie Spring	2/1	14	3.1	27.3	28.7
Beaver Dam Creek	1/31	7	1.9	12.9	9.6
Big Red Mountain	1/24	13	3.3	11.4	20.7
Billie Creek Divide	1/28	12	3.4	18.6	14.7
Billie Creek Divide Pillow	1/28	---	4.2	---	---
Caliban	1/28	13	3.3	12.3	24.7
Caliban (Alternate)	1/28	10	1.8	12.6	---
Champion	1/29	13	3.6	17.8	17.8
Champion Pillow	1/29	13	3.6	---	---
Cold Spgs. Camp Pillow**	1/27	14	4.3	28.6	---
Deadwood Junction	1/31	10	2.3	8.3	6.5
Diamond-Crater Summit	2/1	---	3.0	25.0	19.5
Diamond Lake	2/1	---	2.4	16.0	13.7
Fish Lake	1/28	11	3.1	12/6	9.4
Fourmile Lake	1/27	14	3.8	15.3	15.8
Fourmile Pillow	1/27	---	2.8	---	---
Grayback Peak	1/25	13	4.0	6.3	19.2
Howard Prairie Reservoir	1/31	9	1.9	6.2	6.5
Hyatt Prairie	1/31	3	0.9	5.2	6.0
King Mountain #1	1/27	4	1.5	0.0	---
King Mountain #2	1/27	5	1.8	0.0	---
King Mountain #3	1/27	0	0.0	0.0	1.0
King Mountain #4	1/27	0	0.0	0.0	0.1
King Mountain #5	1/27	0	0.0	0.0	0.1
King Mountain #6	1/27	0	0.0	0.0	0.0
Little Red Mountain	1/24	11	3.3	9.0	18.1
Mt. Ashland Switchback	1/28	12	2.2	13.3	24.4
Mule Creek	1/27	0	0.0	0.0	---
North Umpqua	1/31	3	1.7	15.4	10.3
Page Mountain	1/28	0	0.0	0.0	4.0
Park Headquarters	2/1	19	3.8	37.5	38.8
Red Butte #1	1/25	7	2.7	7.8	10.0
Red Butte #2	1/25	5	1.9	3.5	6.7
Red Butte #3	1/25	0	0.0	0.0	4.1
Red Butte #4	1/25	0	0.0	0.0	2.9
Red Butte #5	1/25	0	0.0	0.0	0.6
Red Butte #6	1/25	0	0.0	0.0	T
Seven Mile	1/26	16	3.7	24.4	---
Silver Burn	1/31	9	2.0	12.3	9.9
Siskiyou Summit	1/28	9	2.2	2.2	7.0
Ski Bowl Road	1/28	11	2.1	10.3	20.5
South Fork Canal	1/31	0	0.0	---	3.2
Trap Creek	1/31	6	1.8	12.5	8.8

## SNOW

SNOW		THIS YEAR			PAST REC.	
DRAINAGE BASIN and/or SNOW COURSE	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)		
				Last Yr.	Ave.†	
KLAMATH WATERSHEDS						
Annie Spring	2/1	14	3.1	27.3	28.7	
Billie Creek Divide	1/28	12	3.4	18.6	14.7 <sup>b</sup>	
Billie Creek Pillow	1/28	---	4.2	---	---	
Chemult	1/27	4	0.4	4.6	8.1	
Chemult (Alternate)	1/27	4	0.4	6.1	---	
Chiloquin (PP&L)	NO REPORT			---	1.8	
Cold Spgs. Camp Pillow**	1/27	14	4.3	28.6	---	
Crazyman Flat***	1/27	4	0.5	5.0	7.4	
Crowder Flat (Calif.)	1/27	4	0.5	0.2	3.2	
Crystal (PP&L)	NO REPORT			6.0	6.8	
Diamond-Crater Summit	2/1	---	3.0	25.0	19.5 <sup>b</sup>	
Diamond Lake Junction (97)		e		3.8 <sup>a</sup>	4.7 <sup>b</sup>	
Dog Hollow	1/27	3	0.4	0.6	1.2	
Finley Corrals***	1/27	14	1.7	13.2	11.8	
Fort Klamath (PP&L)	NO REPORT			---	3.6	
Fourmile Lake	1/27	14	3.8	15.3	15.8 <sup>b</sup>	
Fourmile Lake Pillow	1/27	---	2.8	---	---	
Gerber	2/1	8	1.0	0.0	2.5	
Harriman (PP&L)	1/31	8	2.6	3.4	3.5	
Howard Prairie	1/31	9	1.9	6.2	6.5 <sup>b</sup>	
Hyatt Prairie Reservoir	1/31	3	0.9	5.2	6.0	
Kirk (PP&L)	2/1	6	1.4	---	5.7	
Park Headquarters	2/1	19	3.8	37.5	38.8	
Quartz Mountain	1/28	8	1.0	3.0	5.4	
Seven Mile	1/26	16	3.7	24.4	---	
State Line (Calif.)	1/27	12	1.4	6.2	6.9	
Strawberry	1/30	6	0.7	3.1	6.0	
Strawberry***	NO REPORT			3.4	6.1 <sup>b</sup>	
Summer Rim		e		---	---	
Summer Rim***	1/27	12	1.4	10.2	10.3	
Summer Rim Pillow*		e		---	---	
Sycan Flat	1/27	3	0.4	3.4	6.3	
Taylor Butte	1/31	1	0.2	2.6	4.1	
Taylor Butte Pillow	1/31	---	0.3	---	---	

# BASIC DATA SUPPLEMENT 1

FEBRUARY 1977

## SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. C

LAKE COUNTY, GOOSE LAKE WATERSHEDS					
Adin Mountain (Calif.)	1/25	11	2.0	2.6	8.9
Bald Mountain (Nev.)	1/27	4	0.8	1.0	---
Bear Flat Meadow	1/27	7	1.4	3.4	6.9
Camas Creek	1/28	7	1.7	5.0	7.6
Cedar Pass (Calif.)	1/24	14	5.0	9.6	10.6
Colvin Creek	1/27	2	0.4	0.8	4.2
Cox Flat	1/27	5	0.6	3.1	5.8
Crowder Flat (Calif.)	1/27	4	0.5	0.2	3.2
Dismal Swamp (Calif.)	1/27	13	2.6	11.4	10.1
Finley Corrals***	1/27	14	1.7	13.2	11.8
Hart Mountain	1/27	2	0.4	0.2	1.0
Little Bally Mtn. (Nev.)	1/27	7	1.4	2.2	2.0
Mt. Bidwell (Calif.)		e	---	---	---
North Star (Calif.)		e	---	---	---
Patton Meadows***	1/27	14	1.7	10.8	12.5
Quartz Mountain	1/28	8	1.0	3.0	5.4
Rogger Mdws	1/31	---	0.3	9.5	---
Sherman Valley	1/27	10	2.0	7.0	7.7
Silver Creek	1/27	1	0.3	1.0	2.7
State Line (Calif.)	1/27	12	1.4	6.2	6.9
Strawberry	1/30	6	0.7	3.1	6.0
Strawberry***	NO REPORT			3.4	6.1
Summer Rim		e	---	---	---
Summer Rim***	1/27	12	1.4	10.2	10.3
Summer Rim Pillow*		e	---	---	---
Sycan Flat	1/27	3	0.4	3.4	6.3

## SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. C

HARNEY BASIN WATERSHEDS					
Blue Mountain Springs aa	1/31	8	1.2	11.7	11.7
Blue Mtn. Springs Pillow*	1/31	---	4	---	---
Buck Pasture	2/1	T	0.1	2.8	1.3
Buckskin Lake	NO REPORT			0.6	0.9
Call Meadows	2/1	3	0.4	2.8	2.9
Delintment Lake		e		4.7	5.3
Denio Creek	2/1	T	0.1	0.2	0.6
Disaster Peak (Nev.)		e	---	---	---
Emigrant Butte	1/26	T	0.1	3.4	3.2 <sup>b</sup>
Fish Creek		e	---	---	---
Fish Creek Pillow***		e		18.8	14.6 <sup>b</sup>
Hart Mountain	1/27	2	0.4	0.2	1.0
Idlewild Camp Alternate	1/26	T	0.1	3.2	---
Izee Summit aa	1/28	7	1.2	6.0	5.6
Lake Creek R. S. aa	1/31	6	1.0	8.2	7.2
Oregon Canyon	2/1	T	0.1	3.4	3.5
Rock Spring aa	1/31	4	1.0	5.2	4.0
Silvies		e	---	---	---
Silvies***	NO REPORT			---	---
Silvies Pillow		e	---	---	---
Snow Mountain	1/26	9	1.8	9.0	10.6
Snow Mountain Pillow**	1/31	---	1.0	7.8	---
Starr Ridge aa	1/28	5	0.9	4.9	4.4
Stinking Water	1/28	6	1.7	1.9	2.2
Trout Creek	2/1	4	0.6	4.8	3.9
"V" Lake	2/1	8	1.6	2.8	3.4

aa This station has been shortened to 5 sample points. The data is equivalent to previous measurements.

### LOWER COLUMBIA WATERSHED

Blazed Alder	1/31	---	0.1	18.4	---
Mt. Hood Test Site	1/31	23	8.0	44.3	41.3
Mud Ridge	1/28	13	4.1	23.4	---
Mud Ridge Pillow	1/28	---	0.8	---	---
North Fork Reservoir	1/28	---	3.5	---	---
Still Creek	1/26	8	2.7	17.2	15.6

- \* Manometer reading
- \*\* Telemetry reading
- \*\*\* Aerial
- T Trace

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

# BASIC DATA SUPPLEMENT 2

FEBRUARY 1977

## SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average c
OWYHEE, MALHEUR WATERSHEDS							
Bear Creek (Nev.)	7800	72	16.8			-	-
Big Bend (Nev.)	6700	48	16.7	1/25	10.5	16.1	14.6
Blue Mountain Spring	5900	42	16.9	1/31	5.6	-	9.2
Rodeo Flat (Nev.)	6800	42	11.0			7.2	8.9
Taylor Canyon (Nev.)	6200	48	15.1	1/25	8.4	10.3	11.9
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS							
Blue Mountain Summit	5100	36	16.8	1/31	8.3	-	10.1
Dooley Mountain	5430	36	9.2	1/31	2.2	2.5	3.7
Emigrant Springs	3925	48	22.3	1/27	14.0	-	15.9
Ladd Summit	3730	48	18.9	1/27	9.0	10.7	10.4
Moss Springs	5850	36	25.8	1/28	13.0	14.5	14.9
Tollgate	5070	48	23.6	1/27	13.3	-	19.0
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS							
Battle Mountain Summit	4340	48	13.8	1/31	9.9	-	12.6
Emigrant Springs	3925	48	22.3	1/27	14.0	-	15.9
Tollgate	5070	48	23.6	1/27	13.3	-	19.0
UPPER JOHN DAY WATERSHEDS							
Battle Mountain Summit	4340	48	13.8	1/31	9.9	-	12.6
Blue Mountain Spring	5900	42	16.9	1/31	5.6	-	9.2
Blue Mountain Summit	5100	36	16.8	1/31	8.3	-	10.1
Derr	5670	24	9.0	1/27	4.3	-	8.1
Marks Creek	4540	36	14.1	2/2	9.4	11.2	11.0
Snow Mountain	6300	48	16.7	1/26	12.1	14.0	13.6
Starr Ridge	5150	36	10.6	1/28	8.0	10.3	9.3
UPPER DESCHUTES, CROOKED WATERSHEDS							
Derr	5670	24	9.0	1/27	4.3	-	8.1
Marks Creek	4540	36	14.1	2/2	9.4	11.2	11.0
Snow Mountain	6300	48	16.7	1/26	12.1	14.0	13.6
KLAMATH WATERSHEDS							
Quartz Mountain	5230	48	15.3	1/28	5.7	7.7	8.5
LAKE COUNTY, GOOSE LAKE WATERSHEDS							
Camas Creek	5720	42	14.5	1/28	7.6	11.1	12.1
Quartz Mountain	5230	48	15.3	1/28	5.7	7.7	8.5

## BASIC DATA SUPPLEMENT 2

FEBRUARY 1977

## SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average c
HARNEY BASIN WATERSHEDS							
Blue Mountain Spring	5900	42	16.9	1/31	5.6	-	9.2
Silvies	6900	48	16.4			-	-
Snow Mountain	6300	48	16.7	1/26	12.1	14.0	13.6
Starr Ridge	5150	36	10.6	1/28	8.0	10.3	9.3
Willow-Bald	5000	24	6.6	1/26	4.1	-	5.7

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

# BASIC DATA SUPPLEMENT 3

FEBRUARY 1977

## PRECIPITATION (Inches)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION		PAST RECORD	
		Date of Reading	Precipitation	Last Year	Average <sup>c</sup>
Althouse (Josephine County)	4530	From To 1/28	14.25		
Arbuckle Mountain (Morrow County)	5400	From To 1/27	4.88		
Big Red Mountain (Jackson County)	6240	From To 1/24	16.62		
Billie Creek Divide (Jackson County)	5310	From 12/28 To 1/28	3.36		
Blue Mt. Springs (Grant County)	5900	From 12/28 To 1/31	0.88		
Camas Creek (Lake County)	5825	From 1/3 To 1/28	0.20		
County Line (Umatilla County--Starkey Hdgs.)	4800	From 12/30 To 1/28	0.40		
Fish Lake (Jackson County)	4865	From 12/28 To 1/28	9.00		
Lucky Strike (Umatilla County)	5050	From 12/29 To 1/27	6.69		
Mud Ridge (Clackamas County)	3800	From 12/28 To 1/28	2.52		
Quartz Mt. Summit (Lake County)	6300	From 12/27 To 1/28	1.25		
Saddle Mountain (Washington County)	3250	From To 1/27	39.50		
Seine Creek (Washington County)	2150	From To 1/31	42.50		
Strawberry (Lake County)	5760	From 12/17 To 1/30	1.90		
Taylor Butte (Klamath County)	5040	From 1/4 To 1/31	0.12		
Taylor Green (Union County)	5800	From To 1/28	21.70		
Tipton (Baker County)	5100	From To 1/28	11.16		
(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.					



[illegible]

## Map and Index to OREGON SNOW COURSES



# The Following Organizations Cooperate in the Oregon Snow Survey Work

## STATE

- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon Department Of Water Resources
- Soil and Water Conservation Districts of Oregon

## COUNTY

- Douglas County Water Resources Survey

## FEDERAL

- Department of Agriculture
  - Cooperative Extension Service
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - NOAA, National Weather Service
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Land Management
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
- Department of National Defense
  - Corps of Army Engineers

## PUBLIC UTILITIES

- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

## MUNICIPALITIES

- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

## IRRIGATION DISTRICTS

- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Juniper Flat Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale - Oregon Irrigation District
- Warm Springs Irrigation District

## PRIVATE ORGANIZATIONS

- The Crag Rats, Hood River, Oregon

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
1220 S.W. THIRD AVE.  
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Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

*"The Conservation of Water begins  
with the Snow Survey"*

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